

ND Educational Technology Council

Dan Pullen, Director
PO Box 5036
1510 12th Avenue North
Fargo, North Dakota 58105-5036

Educational Technology in North Dakota Schools - Status and Needs

During March and April 2004 the ND ETC conducted a series of focused discussions with a representative group of school leaders in the state regarding educational technology. The one-hour discussions were conducted as part of school visits and were usually followed by a brief walk-through of the school.

Dan Pullen, ND ETC director, and Jody French, EduTech director, conducted the discussions. The 14 discussion questions were sent to participants in advance so they would have time to reflect and consult with others in their buildings as needed. A total of 42 participants were involved: 19 superintendents, 9 high school principals, 8 technology coordinators, 4 elementary principals and 2 middle school principals. Participants were also selected to represent each region of the state: 13 in the southwest; 12, southeast; 9, northwest, and 8, northeast.

Notes were taken during the discussions and later transcribed and aggregated per question. Dan Pullen and Jody French summarized the responses from each question individually and then met to develop a consensus summary of the findings for each question.

Overall conclusions:

- Students, teachers, administrators and others are using educational technology in North Dakota schools for classroom activities related to teaching and learning, professional activities including curriculum development and for administrative purposes.
- The K12 technology systems and services in place in North Dakota are highly valued and well used.
- Technology, in all its uses, poses continuing challenges to school personnel in terms of time pressure, professional development, training and identifying how technology can be used most effectively in the face of increasing pressure on schools for test score accountability, increasing requirements for data reporting at all levels and declining student numbers.

ND ETC, EduTech and the ND Division of Independent Study are using the findings from these discussions for planning purposes – modifying existing services to better meet the needs of schools and developing new services based on the evolving needs of schools.

Responses from school leaders to each of the discussion questions are summarized in this report. Contact Dan Pullen, ND ETC if you have any questions about this report.

1. How are your teachers currently using educational technology to support student learning?

There is variability between and within schools as to how technology is being used. Although there is progressive use of technology, administrators believe teachers will not fully integrate technology into curricular areas for a variety of reasons including simple reluctance on the part of some teachers, particularly veteran teachers, and difficulty in sustaining practices over time.

- Technology use is focused on applications such as PowerPoint, Accelerated Reader/Math and Internet browsers for research.
- Administrators encourage the use of technology to support student learning but do not have specific expectations of teachers.
- There are pockets of excellence in schools.
- The overall use of technology is to enhance traditional teaching and learning
 - Teaching/learning technology skills
 - Teacher use of technology to automate and present material to students
 - Student use of technology to do research on the internet and to write reports and assignments.

2. What are the one or two examples in your school of the best things teachers are doing using technology that are having the most positive impact on student learning?

There are positive examples of technology use at all grade levels and subject areas. Some of the best applications of technology in the classroom include classroom websites maintained by teachers via SchoolCenter or another tool, distance education via ITV, the use of classroom projects and Atlas Curriculum Mapping.

- Almost half (48%) of the examples given were of teaching/learning activities in which students were engaged in quality activities that involved technology being integrated into the curriculum.
- Teachers using technology as a tool for presenting, delivering and accessing curriculum resources was cited in 37% of the examples.
- Teaching technology in vocational courses, technology exploration courses or elementary keyboarding was cited in 9% of the examples.
- Administrative and operational uses of technology: student information systems, video conferencing, school websites and curriculum mapping.
- Packaged curriculum resources such as Accelerated Reader and Math were cited as exemplary in 2% of respondents.
- Title II, D projects were noted as some of the best things teachers are doing.

3. Related to the way teachers are using technology in the classroom, what kinds of things should be happening that are not happening?

Initiatives are started but are difficult to sustain. TWT and TASL are viewed as success stories.

What should be happening?

- More use of specific types of digital technology - cameras, movies.
- More access to specific types of technology in classrooms – wireless labs.
- More widespread use of all technologies by students.
- More technology integration – teacher use and student use instead of stand alone technology activities.
- Less teacher-only use of presentation tools.
- Ongoing, and long-term change in teaching methods.

a. Why aren't those things happening? What are the barriers?

Time and money for teacher professional development is a common issue. There are not clear expectations for teachers and some teachers believe technology is just an extra. Adequate technology leadership, support and access are a concern for many.

- Teacher attitudes, including the generation gap.
- Too many initiatives now – pressure to increase test scores.
- Lack of time to prepare.
- Lack of expectations – it is easy to require administrative use of technology, but hard to require instructional use.
- Technology seen as extra – not connected to teaching core curriculum.
- No good classroom/curriculum specific models to follow.
- Training not focused enough to be convincing to experienced teachers.
- PowerSchool and other administrative uses of technology have increased the use of other technology resources in some districts.

4. What are the problems in your school with the way technology is being used?

Lack of technology access, scheduling issues (particularly with ITV), lack of participation by veteran teachers and lack of technology support and leadership are common problems.

- Teachers and administrators need to learn and maintain basic technology skills.
- AUPs, internet filtering and anti-virus are successful tools to reduce and eliminate problems with student/staff misuse.

5. What is the biggest problem you are having in your school related to student achievement?

Reading (16) and math (17) were identified as the major achievement problems in schools. When combined with other language arts skills (10), reading, writing, spelling, etc were the single major problem.

a. Do you see any way that technology can be used to help solve that problem?

Most comments indicate technology cannot correct issues with student achievement while others believe applications such as Accelerated Reader/Math can improve test scores and student achievement.

6. Do you think all of your students are “technology literate” by the time they get to high school?

- Most respondents said YES (17)
- 15 said they were not sure or that some were literate, others not.
- 12 said NO.

a. How do you know that? How could you measure that?

Rationale for responses included

- The technology related courses students are required to take.
- Observation of students using hardware and software.
- High test scores and graduation rates.
- Most students have good technology access at home.
- There is no common tool to measure technology literacy.

7. What is the most important thing you need in your school in order to make better use of technology to improve student learning?

Strategic professional development, additional technology coordinator support and additional hardware were mentioned most often.

- Paid time for teachers (17) and training for teachers (16) were cited as the most important needs.
- Access to improved hardware (12) was also important.
- A variety of technology needs were expressed including technical support (3), technology/curriculum specialist (3), and other solutions (10).
- Professional development should consist of short sessions specific to a teacher's content area and allow the teacher to implement what they learned immediately in their classroom.
- Training should be made available outside the school day, possibly with additional days built in the calendar or during the summer with compensation provided.
- Professional development should also include time for teachers to develop lesson plans and projects for use in their classroom.
- Professional development for teachers should include an understanding and use of technology standards and the use of curriculum mapping.
- Schools with part-time technology coordinators need to increase the time of these positions and in many cases make them full-time. The technology coordinators should have classroom integration skills as well as technical support skills.
- New or additional mobile labs are needed for technology-supported instruction.

8. If you have an extra \$20,000 in the next 18 months to spend on educational technology in your school, what would you spend it on?

Schools would spend unanticipated funding on professional development for teachers, additional technology support and hardware. This is consistent with the most important things identified as needed to make better use of technology to improve student learning. Several schools mentioned they would spend the funds on NWEA testing.

- Paid time for teachers (14) combined with training for teachers (11) was cited as the highest priority.
- Wireless Labs (14) was a high priority, followed by upgrading traditional labs and purchasing other new PCs (9).
- Various other technologies (9), a technical/curriculum specialist (5), video networking (3), LAN and WAN upgrades (3), and online testing services (2) were also mentioned.

9. Are you using video for classes in your school? How is that going? What is needed for better results?

Technically, video is working very well. Technical problems and support issues are minimal. Schools realize that video is necessary even though it is not the quality of face-to-face/on-site instruction. Consortia struggle with organizational and turf issues.

- It is difficult to find teachers who are willing to teach their courses via video and some teachers who do teach via video aren't well trained for the video environment.
- Some consortia are operating without common schedules and bells creating problems for students, teachers and administrators.
- Some schools are not willing to receive courses from larger schools in the consortium as it means they are one step closer to closing.

- Schools are finding benefits of video for teachers participating in university programs, dual credit for students and special ed needs.
- The most difficult issue expressed was the threat teachers and administrators feel is posed by ITV and distance ed. They have FTE on staff and as student numbers decline, they feel pressure to keep the students in the classes offered by those FTE rather than offering other electives and having to find something else for their local FTE to do.
- SPICE schools cited problems with IVN scheduling, their inability to connect to other schools and negative issues with H.323 in general.

10. Are your students using other distance learning options? What is needed in this area?

- Students are using the NDIS for distance learning in most cases. NDIS courses are used primarily for make-up, last class needed or to accommodate a student's scheduling problem.
- Schools mention the need for use or more use of Blackboard based instruction and the need for hybrid courses that use online instruction and video instruction.
- Schools in the Devils Lake geographic area mentioned the Lake Region honors program.
- Administrators are supportive of these optional distance learning programs if the costs are manageable and do not compete with the courses they offer locally.

11. Are you using PowerSchool student information system in your school? How is that going? What is needed for better results?

PowerSchool is being used in 15 of the schools visited. Five of those schools had negative experiences. Items mentioned include training, cost, reports and unfriendly application.

Schools need one year of use for satisfactory results. During the first year, more time is needed from their secretaries, principals and teachers than they expect. They need on-going support in all areas. PowerSchool is a mission critical service and must work as flawlessly as possible.

Eleven schools are using JMC and eleven other SISs were identified as being used in schools.

12. Are you using TetraData data warehouse in your school? How is that going? What is needed for better results?

Schools are lacking information about TetraData and this lack of information has caused them to consider it a low priority.

- Awareness of TetraData is generally low.
- Those with some awareness have mostly mixed feelings about TD.
- 28 of 42 had either no awareness or distinctly negative attitudes about TD.
 - It doesn't work yet.
 - It doesn't give frequent enough feedback.
 - Other things are higher priority.
 - DPI has not done a good job of implementing TD.

13. Regarding professional development and training for you and your staff to use technology more effectively, what do you think they need to achieve the results you have in mind?

Professional development is viewed as the most important link to successful use of technology in the classroom while being the most difficult to manage and support.

- Time, money and better follow-up/accountability are big obstacles for teachers/administrators.
- In order for professional development to occur with positive results teachers need additional time in the school day/year and compensation for their time.
- Professional development needs to
 - Consist of short sessions specific to a teacher's content area and allow the teacher to implement what they learned immediately in their classroom.
 - Include time for teachers to develop lesson plans and projects including peer-to-peer discussion time.
 - Include an understanding and use of technology standards and curriculum mapping.
 - Provide on-going support from a technology partner in the building who assists with curriculum development, follow-up training and refresher sessions as needed.
 - Delivery of professional development by ITV and local in-house were cited as positive.
 - Six cited the need for more training in administrative applications such as Atlas and PowerSchool.
 - Professional development is important in all areas, not just technology and it all consumes teacher time.
 - The pressure to do too many things and trainers that come in and then no follow up occurs were seen as negative.

14. Where should the ND ETC, EduTech and ND Division of Independent Study focus their attention and resources in the next two years?

Continue to provide well-coordinated services from a single agency as now with the ETC model. STAGEnet is a success supporting the need to maintain basic school services on a statewide level.

ETC

- Although compliance activities are necessary schools resent the time and paperwork involved. The more these activities can be streamlined between the ETC and DPI the better.
- Expand the grant process to more than video applications.

EduTech

- Core services such as e-mail, internet filtering and anti-virus services are of high value.
- Regional staff is valuable to schools but their role needs to be clarified.
- Provide quality professional development that models best practices.
- Good website with information for schools.

NDIS

- Administrators view NDIS as a necessary service for those students seeking make-up work, remedial classes or those wishing to learn in an alternative setting.
- In some instances, NDIS assists schools needing a class via the video network when one is not available in the local school setting or consortium.
- There is some suggestion that the need for NDIS services will increase in the future.

OTHER COMMENTS:

- The overall pressures on school districts because of state and federal requirements are taking a toll on the entire district.
- The pressure of declining enrollments dominates school decision-making.
- Leadership by school administrators and technology coordinates is critical.